

Two New Activated Sludge Solutions from EnviroMix Deliver Sustainable Flexibility in Wastewater Operation

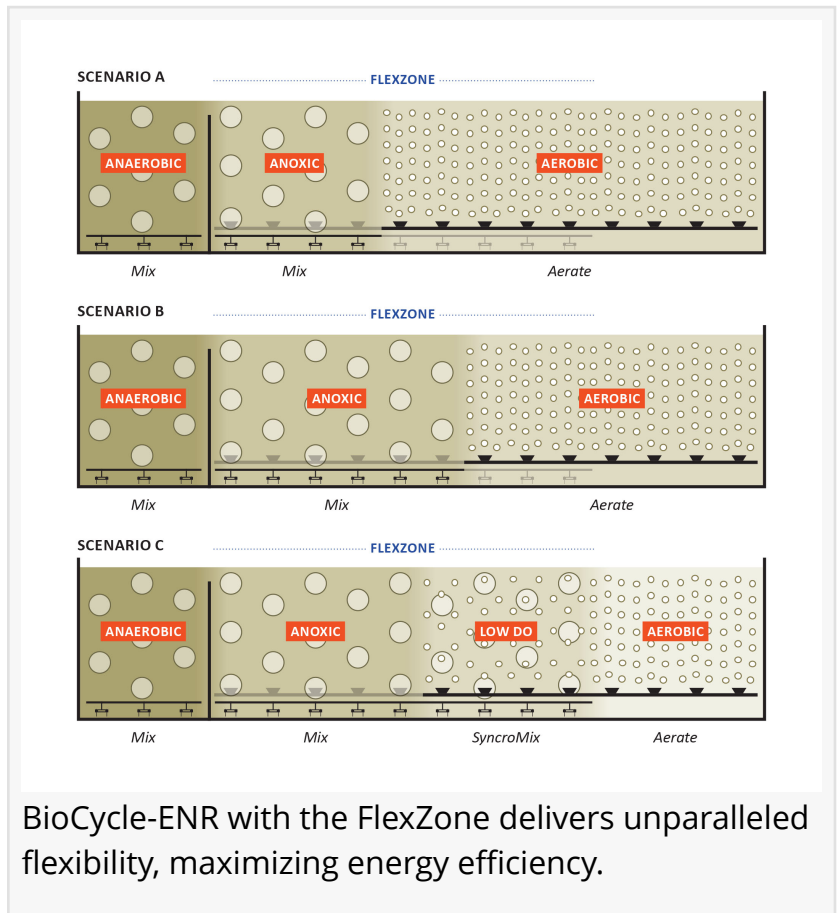
EnviroMix releases two new technologies to the market

CHARLESTON, SC, USA, April 21, 2022 /EINPresswire.com/ -- EnviroMix is excited to release two powerful technologies that dynamically adapt anoxic, low dissolved oxygen (DO), and aerobic volumes to changing treatment conditions without the need for baffle walls. [BioCycle-ENR](#) Activated Sludge Process and the [FlexZone](#) Adaptive Process Volume System overcome the restrictions of conventional activated sludge design while:

- Eliminating decades of operation that is constrained, inefficient, and suboptimal
- Providing adaptability to achieve substantial energy savings today while maintaining the capacity for 20-year design conditions
- Ensuring reliability of effluent quality and minimizing chemical consumption

Building off of the company's already proven technology, the FlexZone integrates BioMix Compressed Gas Mixing with a new or existing diffused aeration system to satisfy oxygen demand while minimizing energy consumption. BioCycle-ENR takes the solution a step further by providing integrated equipment and process controls to meet stringent nitrogen and phosphorus requirements.

The technologies enable effective carbon management by preventing over-aeration, thus creating environments that foster denitrification to reduce carbon and enhance fermentation to



improve biological phosphorus removal. Treating wastewater to meet specific effluent limits can substantially reduce nitrogen and phosphorus discharge from municipal and industrial wastewater treatment facilities, protecting natural bodies of water and preventing disastrous ecological harm in marine habitats.

In the image, the three scenarios illustrate just a few of the many ways the environment in a single bioreactor can be manipulated to match influent loading throughout the life of the facility. As the influent loading reduces between Scenarios A, B, and C, the FlexZone effectively shuts off unneeded aeration to save energy and converts the environment to anoxic mixed conditions to improve denitrification. As shown in Scenario C, the system can also operate with SyncroMix — which is concurrent operation of BioMix and diffused aeration to independently meet mixing and oxygen demands — to provide a low DO environment for simultaneous nitrification and denitrification.

BioCycle-ENR and the FlexZone can be designed for greenfield treatment facilities or integrated into facility upgrades utilizing existing equipment. The system easily retrofits conventional activated sludge processes, oxidation ditches, sequencing batch reactors, and biological nutrient removal facilities.

To learn more about the energy efficiency, process optimization, straightforward operation, and unparalleled flexibility a BioCycle-ENR Activated Sludge Process with FlexZone Adaptive Process Volume System provides, visit www.enviro-mix.com/biocyclus-enr/.

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